International Journal of Advances in Engineering and Management (IJAEM)
Volume 5, Issue 11 Nov 2023, pp: 16-29 www.ijaem.net ISSN: 2395-5252

Effects of foreign exchange rate fluctuation on the financial performance of supply chain for the mining companies.

Kennedy Lushibashi F.K., [1.2]Mweshi G.K.
ZCAS University. Lusaka. Zambia
ZCAS University.Lusaka. Zambia

Date of Submission: 01-11-2023 Date of Acceptance: 11-11-2023

ABSTRACT
The study objective was to determine the effect of foreign exchange rate fluctuation on the financial performance of mining listed companies in Zambia. Surveys of respondents were used to gather primary data, and the annual reports of First Quantum Minerals were used to gather secondary data. For this study, a mixed-methods strategy that included both quantitative and qualitative research was used in a descriptive research design. The study's five-year time frame was from 2018 to 2022. The purpose of this study was to ascertain how foreign currency rate fluctuations affected foreign companies' financial results on the LuSE. The following specific objectives were used to guide the inquiry. to investigate the impact of translation exposure on first quantum minerals' equity and return on assets. to ascertain the impact of transaction exposure on equity and return on assets for first quantum minerals. to evaluate how economic vulnerability affects first quantum minerals' equity and return on assets. According to the study's findings, there is a slight but favorable association between a company's financial performance and its exposure to translation through sales. Additionally, the study found a weak but positive relationship between transaction exposure using trade receivables and company financial performance. Last but not least, using total assets, the study found a negligible but positive correlation between corporate financial success and economic exposure. According to the study, international listed businesses in Zambia should create a solid framework for managing foreign exchange risk that makes explicit how they evaluate currency risk and how they put their foreign exchange risk management plan into practice. The report also suggested that the Zambian government, through decision-makers like the Bank of Zambia, develop tools and policies to help stabilize and regulate volatility in foreign exchange rates.

KEYWORDS: Foreign exchange rates, fluctuations, financial performance, market volatility

I. INTRODUCTION

This study was taken to determine the effect of foreign exchange rate fluctuation on the financial performance of mining companies on Lusaka Securities Exchange (LuSE) with specific focus on First Quantum Minerals (FQM). Foreign exchange rate fluctuation refers to the changes in the value of one currency relative to another over time. Exchange rates are determined by market forces, including supply and demand for currencies, economic indicators, interest rates, political stability, and market sentiment. Fluctuations in exchange rates can have profound effects on various aspects of a company's financial performance (Nydahl, 2019).

As a prominent player in the Zambian mining sector, FQM's financial performance is significantly impacted by currency volatility. The Zambian kwacha, being the local currency, plays a crucial role in determining FQM's profitability and investor sentiment. Fluctuations in exchange rates influences revenue and costs, debt servicing, investor sentiment, and market performance (Döhring, 2018). As a foreign company operating in Zambia, FQM's financial performance is particularly vulnerable to currency volatility. Therefore, understanding the relationship between exchange rate fluctuations and financial performance is crucial for companies operating in foreign markets, as it allows them to devise appropriate risk management strategies to mitigate potential losses and optimize profitability.

International Journal of Advances in Engineering and Management (IJAEM)
Volume 5, Issue 11 Nov 2023, pp: 16-29 www.ijaem.net ISSN: 2395-5252

II. PROBLEM STATEMENT

First Quantum Minerals Limited, is operating in a global market where they are exposed to foreign exchange risks due to fluctuations in exchange rates. These fluctuations impact the financial performance of the company, and there is a need to understand the nature and magnitude of these impacts. Foreign exchange rate fluctuations can have significant impacts on the financial performance of companies like First Quantum Minerals Zambia (FQM, 2022). FQM Zambia may benefit from a weaker Zambian Kwacha as it would increase their export profits when the currency in which they sell their copper or other minerals is stronger than the kwacha. This can lead to increased revenues and profits for the company.

A weaker kwacha makes FQM Zambia more competitive in global markets than its competitors from other countries and may help attract more buyers, leading to increased sales, also the cost of energy is typically a significant expense for mining companies, a weaker currency may lead to lower energy costs since electricity is priced in Kwacha. This can result in lower production costs and increased profit margins.

However, with these fluctuations comes negative effects like Increased Debt Servicing Costs. A stronger US dollar (USD) or other foreign currency against the Kwacha could lead to higher interest costs and loan repayment costs for FQM Zambia, since debts are typically denominated in USD or other foreign currencies. This could result in lower profits by reducing free cash flows and increasing debt repayment burdens.

Additionally, there will be a reduction in local purchasing power, FQM Zambia may have limited ability to pass on higher production costs resulting from exchange rate fluctuations, which could reduce local purchasing power and negatively impact local communities, particularly in regions where FQM Zambia is a major employer. Lastly there will be political and economic Risk. Exchange rate fluctuations can cause political and economic risks that can impact the stability of the company's operating environment. This might involve, among other things, contract enforcement irregularities or changes in policy that have an impact on mining activities.

Businesses that are forced to adapt to a severe decrease in the value of the kwacha may see long-term effects, according to Lungu and Kabubi (2017). Inflation, rising import and raw material prices, rising transportation costs, and job losses as assessed by direct evaluation are a few examples from their study that illustrate these trends. First Quantum saw a net loss of $180 million to shareholders in 2022 as opposed to a net loss of $57 million to shareholders in 2021. The ZMW's decline in value in relation to the US dollar (USD) was mostly to blame for the $225 million foreign exchange deficit in the 2022 outcome. The goal of this study was to assess how changes in foreign exchange rates impacted the financial outcomes of foreign companies listed on the LuSE.

Research Objectives

i To analyse the effect of translation exposure on First Quantum Minerals' equity and return on assets.

ii To ascertain the effect of transaction exposure on First Quantum Minerals' equity and return on assets.

iii To evaluate the effect of economic exposure on First Quantum Minerals' equity and return on assets.

III. LITERATURE REVIEW

Exchange Rate Fluctuation

Exchange rate volatility is important in shaping a country's trade balance, according to Adetayo et al. (2004). Omagwa (2005) asserts that changes in exchange rates have a direct impact on import prices, which has an adverse impact on a nation's external sector. According to Murthy and Sree's (2003) theory, changes in exchange rates have a significant impact on a country's foreign debt. Under a fixed exchange rate regime, the central bank will normally establish a par value between foreign and domestic currencies (Reid and Joshua, 2004). The cost of one unit of foreign currency in relation to one unit of local currency is what Bradley and Moles (2002) define as the exchange rate. The value of one unit of foreign currency in relation to local currency is known as the exchange rate, according to Reid and Joshua (2004). According to Omagwa's (2005) theory, the rule of supply and demand governs exchange rates just like it does for any other good or service. Changes in fiscal policies explain currency supply, but a wide range of variables, including inflation and interest rates, impact currency demand. Murthy and Sree (2003) asserted that the ability to compare prices of items quoted in several currencies is made possible by exchange rates.

Foreign Exchange Exposure

Several studies have been conducted in relation to this subject. Wong, Wong, and Leung

(2008) examined how exposed Chinese banks were to foreign currencies. In the study, fourteen banks were used as a sample. The analysis shows a relationship between bank size and foreign exchange exposure that is positive. The paper claims that a decline in stock values brought on by an increase in foreign currency rates harms bank performance.

On the other hand, Patosa and Cruz (2013) investigated how various Asian countries, such as China, the Philippines, Malaysia, Thailand, and Thailand, could be impacted by changes in exchange rates. The findings of this study demonstrated that only certain of the model's variables were responsible for explaining changes in exchange rates. Industrial production was seen to be significant in countries under consideration. Results for the money supply, interest rate, and inflation rate were also inconsistent.

Nemushungwa, Gyekye, and Matthew (2015) conducted an experimental assessment of how the fluctuation in the exchange rate affects South African exports using monthly data from the years 2000 to 2013 and the ARDL bounds testing methodology. The study's results confirmed the notion that changes in exchange rates had only a minor, long-term impact on South African exports. The real exchange rate has little long-term impact on South African exports. Additionally, it was discovered that the exports model's coefficient of error correction was positive and statistically insignificant, which is in direct opposition to the validity of the long-run equilibrium relationship between the selected variables.

Financial Performance

According to Adetayo et al. (2004), an organization's financial performance contains indicators of its successes. Financial outcomes serve as a gauge for a company's objectives and standards. A few indicators, including profitability, liquidity, and debt metrics are used to assess a company's financial performance (Reid and Joshua, 2004). The goal of every organisation, according to Bradley and Moles (2002), is to maximise profits; as a result, profitability metrics are used more frequently than other metrics. Examples of profitability measurements include return on equity (ROE), return on asset (ROA), and net interest margin. Khrawish (2011) asserts that ROA is crucial for assessing a bank's profitability since it frequently reveals how efficiently a management team utilises its resources. Net Interest Margin explains interest income.

Effect of Exchange Rate Fluctuation on Financial Performance

In a study published in 2013, Mutwiri (2013) intended to determine how foreign exchange rate volatility affected the financial performance of Kenyan commercial banks. The study concluded that the weak state of the Kenyan foreign exchange market—which is caused by seasonal patterns in foreign exchange returns and volatilitymakes it inefficient. Exchange rates do not instantly reflect current information, as seen by the volatility clusters that come from unpredictably occurring shocks to the market and are likely to persist. She recommended that, to improve information efficiency, exchange rate information should be made available to the public via information technology infrastructure. Her study, however, relied on secondary statistics that may not be accurate because they were meant for other goals, such as persuading external stakeholders that the organization is performing well.

Foreign Exchange Hedging

To determine the connection between foreign exchange hedging strategies and the financial success of companies listed on the New York Stock Exchange, Wanja (2013) conducted a study. Consequently, foreign exchange having an influence on import costs and accounts payables, with a net effect on the net income of multinational firms, he noticed that there had been a significant percentage shift in imports and exports for companies listed on the Nairobi Securities Exchange. He suggested employing a framework that is explicit about how currency risks are evaluated and how foreign exchange risk management approaches are put into practice. However, because of the potential for respondents to misinterpret questions, his study had some inherent limitations in the use of questionnaires for data gathering. Sample results might not accurately represent the behaviours of the entire population.

Exchange Rate Fluctuations in Zambia

In their 2017 study, Lungu and Kabubi looked at the effects of kwacha depreciation on small and micro businesses (SMEs) using SMEs in Lusaka's CBD as a case study. In this study, the economic effects of the depreciation of the Zambian kwacha on small and medium-sized businesses (MSMEs) in the CBD of Lusaka were evaluated. The study examined the effects of the depreciation on SMEs' enterprises between 2012 and 2017. The cost attributable to the loss of value of the kwacha was calculated using direct loss as

International Journal of Advances in Engineering and Management (IJAEM)
Volume 5, Issue 11 Nov 2023, pp: 16-29 www.ijaem.net ISSN: 2395-5252

part of the direct assessment approach methodology. The cost of the kwacha's depreciation is estimated using the direct assessment approach, a methodology for economic appraisal.

Depreciation of the Zambian Kwacha

Malumuna and Kabubi (2017) also investigated how Zambian businesses, employment, and income were impacted by the kwacha's decline in value against the US dollar. The study included a range of individuals who resided in the Copperbelt area of Ndola, Zambia, and was based on first-hand information. One hundred employees from a variety of responders were chosen as the sample, and a questionnaire with many questions was utilized to gather the data. The correlation analysis test was conducted in Excel to ascertain the research's conclusions. The results demonstrate how adversely the Kwacha depreciation has affected enterprises, jobs, and income. The analyses' findings showed that Zambia's economy will always be poor since it depends on the success of other countries.

Theoretical Framework

The Foreign exchange exposure theory and the Purchasing Power Parity Theory are the two main hypotheses on which this study is based. Below is a detailed discussion of these theories.

Purchasing power parity (PPP) theory

The Purchasing Power Parity (PPP) theory, an economic theory that strives to explain the connection between exchange rates and the comparative pricing of goods and services in various countries, was first put forth by Gustav in 1918. According to the notion, the value of comparable items is the same in all nations regardless of the currencies they use. Reid and Joshua (2014) go on to say that the ratio of commodities price levels ought to be the same as the value of the nation's currency. However, a country's currency may be erroneously valued (Ross et al. 2008), leading to a lack of purchasing power when compared to the level of its commodities. According to Reid and Joshua (2014), the willingness to pay a specific sum for foreign currency depends on its ability to be used to purchase goods and services in that nation. Any departure from this assertion implies an inaccurate assessment of the value of a nation's currency.

According to the PPP theory, currencies are valued based on the things they can be used to buy, and in an equilibrium of arbitrage, the exchange rate between two currencies should be equal to the ratio of their respective price levels. This suggests that, at least over the long term, the real exchange rate should reflect mean reversion. This theory, which considers supply and demand, explains how the value of one currency in relation to another country's currency depends on the basket of products and services it can buy (Reid and Joshua, 2014). According to the theory, the equilibrium exchange rate is one that guarantees the transferred value may be used to purchase the same assortment of goods and services from both participating nations.

Foreign exchange exposure theory

The Foreign Exchange Exposure Theory, Black (1973), discusses the potential effects of currency fluctuations on a company's financial performance. Research investigations in the fields of international finance and accounting can benefit from this idea. Foreign exchange exposure, sometimes referred to as exchange rate exposure, is the possibility that shifts in exchange rates will influence a company's cash flows and earnings. Changes in exchange rates may have a detrimental impact on a sizable number of contractual agreements for multinational firms with several overseas branches. Future changes in the currency rate could influence the company's manufacturing and marketing operations.

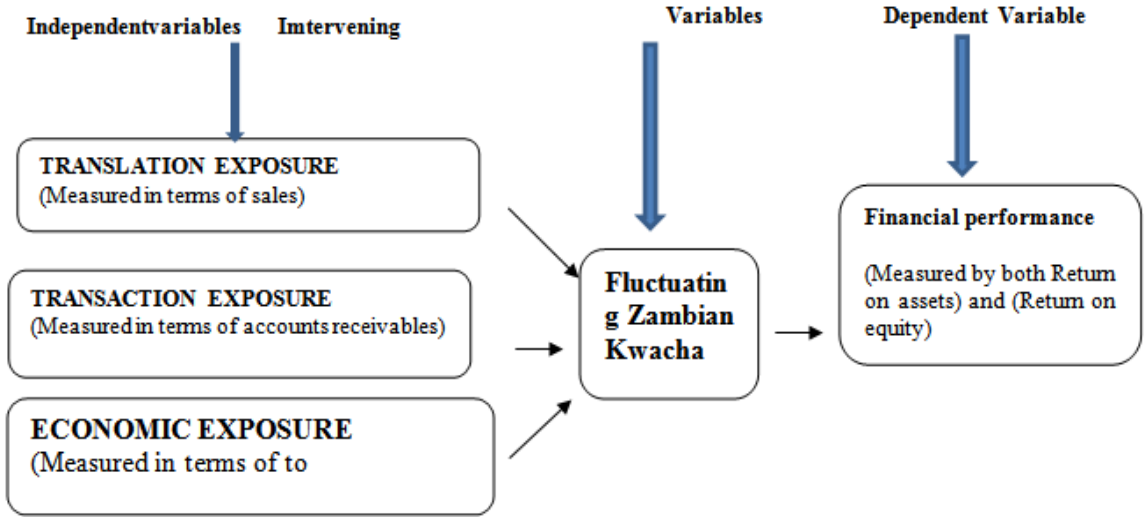
The sensitivity of a firm's cash flows to changes in currency rates can be used to calculate its foreign exchange risk. Since then, a great deal of research has been done to assess and improve this idea, examining many elements including industry, size, and place of origin that may have an impact on a company's exposure to foreign exchange. For instance, a recent study by Gao and Li (2019) looked at how political risk affected the amount of foreign exchange that Chinese companies were exposed to. The idea of foreign exchange exposure explains how changes in exchange rates have a significant impact on a company's worth through their impact on sales and net asset values. The theory of foreign exchange exposure continues to be an important one for research because it aids in understanding its implications and can help businesses manage their currency risk and improve their financial performance.

Conceptual framework

The dependent variable is financial performance, which is a measure of how well a company uses its resources to generate money (McCarthy, 2019). The independent factors were economic exposure, translation, and transaction. An example of a foreign exchange risk that

International Journal of Advances in Engineering and Management (IJAEM)
Volume 5, Issue 11 Nov 2023, pp: 16-29 www.ijaem.net ISSN: 2395-5252

multinational firms that have subsidiaries operating in other nations face is translation vulnerability. Transaction exposure is a sort of foreign exchange risk that exists in every global market and is experienced by businesses who engage in international trade. The risk created by changes in foreign exchange rates that have a negative impact on a company's financial stability is known as economic exposure (Goldberg and Knetter, 2017).



RESEARCH METHODOLOGY

Research Strategy

The mixed research methodology used in this case study, which used both a quantitative and a qualitative research design to gather data, is appropriate when adopting the post-positivist paradigm. The issue (patterns and trends) under examination was easier to characterize in this study since it used a descriptive research analysis. When learning about the status of relevant factors or circumstances, a descriptive research design is beneficial. It also contains the correlation, which investigates the relationship between the elements.

The mixed research approach was used for this investigation since the study included quantitative and qualitative research designs when gathering data (Yin, 2016). This study used FQM Zambia as a case study. The design was suitable since it enables the description and understanding of pre-existing associations as well as the comparison of the study's variables. This study established a link between FQM Zambia's financial performance and the foreign exchange rate. Financial success served as the dependent variable in this case, and foreign exchange served as the independent variable (Goldberg and Knetter, 2017).

Sampling Frame and Sample Size

Kothari (2004) defined a sampling technique as "a clear plan established prior to any data actually being gathered with the purpose of taking a sample from a specific population." A study sample is made up of participants in the study population (Valliant et al., 2015). The FQM website lists the 2,000 employees in Zambia who make up the study's real target population. A sample is a collection of data that is selected following a predetermined process from a population. This is why the sample size for the study was determined using the Yamane formula. However, it relied on sampling frame to count the population because it allowed everyone in the population to be chosen rather than just a small portion. It was used in this study since it has a wider spectrum of accuracy in data and population characteristics. Yamane formula (1967) as determined by Israel (2012) was.

$$n = \frac{N}{1 + N(e^2)} = \frac{2{,}000}{1 + 2{,}000(0.05^2)} = 333$$

The study determined a sample of 333 from the population 2,000.

In conducting this research, a census was used to collect secondary data of First Quantum's 5-year financial statements was employed. The target population of this study was 5, which is the financial statements for a 5-year period from (2018-2022). The investigation used a census technique. When the intended research population participates in the study, it is called a census. As a census approach ensures an important level of accuracy and yields complete financial data for First Quantum, it was chosen for the study. Census was also used to enable the researcher to

International Journal of Advances in Engineering and Management (IJAEM)
Volume 5, Issue 11 Nov 2023, pp: 16-29 www.ijaem.net ISSN: 2395-5252

completely examine each of the last 5-year financial statements of First Quantum.

Data Collection

To gather primary data from respondents for this study, self-administered questionnaires and structured interviews were conducted. Both primary and secondary sources of information were used to compile the necessary data for this investigation (Allmer, 2012). Secondary data from the company's consolidated financial statements was acquired using the observation gathering technique. Press releases and financial reports are only a couple of examples of secondary data sources. The websites of First Quantum, LuSE, and the financial statements from the past five years are where the secondary data is acquired. The income statements, cash flow statements, and financial notes included in the audited financial statements were crucial for collecting the secondary data. To get the necessary secondary data, the researcher created a list of questions to ask participants. The financial information gathered spanned the years (2018-2022).

Data Processing and Analysis

Toanalyze qualitative data, narrative analysis—which focuses on the organization and content of stories or narratives—was used. This approach was valuable for figuring out how people were able to interpret and construct their experiences. The statistical package for social science (SPSS) software version 26 was used in arriving at the general opinions of the respondents. A multiple regression model was used for data analysis, which was conducted using SPSS Version 26 and inferential statistics.

The study had 333 questionnaires which were distributed, and 250 of them were completed and returned, translating to a response rate of 75%. The results may be inferred because the respondent response rate was representative. According to Mugenda and Mugenda (2012), who indicated that at least 50% of the response rate is appropriate in the conclusion and reporting of data analysis, and that a response rate of 75% is good if considered. This justification for response rate led to the conclusion that 79% of the response rate was sufficient for data processing and presentation in this study.

Research Reliability

Cronbach's Alpha was used as an internal consistency tool to evaluate the instruments' dependability. The reliability increases with a rise in the alpha value, which runs from 0 to 1. The calculated Cronbach scale for this investigation was 0.998. A Coefficient ranging above 0.7 is recommended and indicated that the research instrument to good and reliable (Bryman, 2014). The results of the Cronbach's Alpha Coefficient scale of 0.998 signified the high internal consistence reliability.

Reliability Statistics	
Cronbach's Alpha	N of Items
.998	5

RESEARCH FINDINGS

Translation Exposure

The study's objective was to investigate how translation exposure affected the return on assets and equity of first quantum minerals. As a result, the respondents were asked to rate how much of the assertions about the impact of translation exposure on return on assets and equity they agreed with. A rating of strongly disagree, disagree, uncertain, agree, and strongly agree was utilized in the study. The respondents' level of familiarity with the concept of translation exposure varied, ranging from a minimum score of 1.00 to a maximum value of 5.00. The average familiarity among the respondents was calculated to be 2.0960, with a standard deviation of 1.25742. This indicates that there is some variation in the respondents' knowledge and diverse levels of familiarity with the idea.

Regarding the existence of certain people or departments responsible for handling translation exposure, the degree of agreement among the respondents ranged from 1.00 to 5.00. The mean value of 2.3200 suggests that, overall, respondents are less certain or in agreement with the presence of such roles or departments. The responses showed some variability, as indicated by the standard deviation of 1.35682. Similarly, when it comes to the perception of whether operational efficiency is achieved through effective management of translation exposure, the respondents' ratings ranged from 1.00 to 5.00. The mean value of 2.3200 indicates a similar trend as the previous variable, suggesting a tendency

International Journal of Advances in Engineering and Management (IJAEM)
Volume 5, Issue 11 Nov 2023, pp: 16-29 www.ijaem.net ISSN: 2395-5252

towards disagreement or uncertainty. The standard deviation of 1.42609 shows some dispersion in the responses.

Regarding the agreement on the presence of specific financial indicators or metrics to assess the impact of translation exposure, the respondents' ratings ranged from 1.00 to 5.00. The mean value of 2.3840 indicates a similar pattern as the previous variables, pointing towards disagreement or uncertainty. The standard deviation of 1.38717 suggests some variability in the responses. When considering the agreement on the presence of training and educational programs to enhance awareness and understanding of translation exposure, the respondents' ratings ranged from 1.00 to 5.00. The mean value of 2.5760 suggests a slightly higher level of agreement or uncertainty compared to the previous variables. The standard deviation of 1.50108 indicates a larger dispersion in the responses.

		Financial performance (Return on assets) and (Return on equity)	Translation exposure (Total sales)	Transaction exposure (Accounts receivables)	Economic exposure (Total sales)
Financial performance (Return on assets) and (Return on equity)	Pearson Correlation	1	.219	.357	.473
	Sig. (2-tailed)		.724	.555	.421
	N	5	5	5	5
Translation exposure (Total sales)	Pearson Correlation	.219	1	.748	.855
	Sig. (2-tailed)	.724		.146	.065
	N	5	5	5	5
Transaction exposure (Accounts receivables)	Pearson Correlation	.357	.748	1	.571
	Sig. (2-tailed)	.555	.146		.315
	N	5	5	5	5
Economic exposure (Total sales)	Pearson Correlation	.473	.855	.571	1
	Sig. (2-tailed)	.421	.065	.315	
	N	5	5	5	5

Correlation Analysis
Source: Research data (2023)

The descriptive statistics reveal that the respondents exhibit a lower level of familiarity with the concept of translation exposure, supporting the observation made by Wong, Wong, and Leung (2008) regarding the need for increased awareness and understanding of foreign exchange risks. The study also found a tendency towards disagreement or uncertainty regarding the existence

International Journal of Advances in Engineering and Management (IJAEM)
Volume 5, Issue 11 Nov 2023, pp: 16-29 www.ijaem.net ISSN: 2395-5252

of specific individuals or departments responsible for managing translation exposure, which corresponds to the research by Peterson and Froot (2019), emphasizing the importance of clearly defined responsibilities for effective risk management. Similarly, the respondents expressed uncertainty about achieving operational efficiency through effective management of translation exposure, consistent with the findings of Allayannis and Ofek (2011), who highlighted the challenges in achieving efficiency gains in translation exposure management.

Transaction Exposure

The respondents were questioned about how much they agreed or disagreed with the claims made on the effect of transaction exposure on return on assets and equity. The study used the following ratings: strongly disagree, disagree, disagree, uncertain, agree, and agree strongly. On a scale from 1.0 to 2.9, disagreement indicated, followed by uncertainty at 3.0 and agreement at 3.1 to 5.0. The respondents' consensus on the availability and sufficiency of resources (financial, technological, human) to manage transaction exposure was ranging from 1.00 to 5.00. The average value of 2.3520 indicated a leaning towards disagreement or uncertainty, implying that the respondents believe there is a lack of adequate resources to effectively manage transaction exposure. The standard deviation of 1.40713 showed some variation in the responses.

Regarding the familiarity of the respondents with the concept of transaction exposure, their ratings ranged from 1.00 to 5.00. The mean value of 2.3840 suggested a tendency towards disagreement or uncertainty regarding the respondents' understanding of the concept. The standard deviation of 1.38717 suggested some variability in the responses. The respondents' agreement on the presence of communication and coordination challenges that hinder the effective implementation of transaction exposure management ranged from 1.00 to 5.00. The mean value of 2.4480 suggested a tendency towards disagreement or uncertainty, indicating that the respondents perceived obstacles in communication and coordination that impede the effective management of transaction exposure. The standard deviation of 1.41396 indicated some dispersion in the responses.

Regarding the presence of regulatory and legal hurdles that pose challenges to effective transaction exposure management, the respondents' agreement ratings ranged from 1.00 to 5.00. The mean value of 2.5440 suggested a tendency towards disagreement or uncertainty, indicating that the respondents perceive regulatory and legal obstacles that hinder the effective management of transaction exposure. The standard deviation of 1.48082 suggests some variability in the responses. The respondents' agreement on the presence of resistance and reluctance from employees or management to embrace and manage transaction exposure ranges from 1.00 to 5.00. The mean value of 2.6720 suggested a tendency towards disagreement or uncertainty, indicating that the respondents perceived resistance and reluctance among employees or management in adopting and managing transaction exposure. The standard deviation of 1.49310 indicated a larger dispersion in the responses.

Economic Exposure

The respondents' consensus on the implementation of specific actions or initiatives by top management to foster a culture of managing economic exposure ranged from 1.00 to 5.00. The average value of 2.3200 suggesting a leaning towards disagreement or uncertainty, indicating that the respondents perceived a lack of specific actions or initiatives by top management in promoting the management of economic exposure. The standard deviation of 1.35682 indicated some variation in the responses. Regarding the significance of policies and procedures in aiding the management of economic exposure, the respondents' agreement ratings ranged from 1.00 to 5.00. The mean value of 2.3200 suggests a similar trend as the previous variable, indicating a tendency towards disagreement or uncertainty regarding the effectiveness of policies and procedures in managing economic exposure. The standard deviation of 1.42609 suggested some variability in the responses.

The respondents' agreement on the presence of sufficient collaboration and coordination between leadership, governance structures, and risk management teams in managing economic exposure ranged from 1.00 to 5.00. The mean value of 2.3840 suggests a tendency towards disagreement or uncertainty, indicating that the respondents perceive a lack of sufficient collaboration and coordination in managing economic exposure. The standard deviation of 1.38717 suggested some variability in the responses. Regarding the familiarity of the respondents with the concept of economic exposure, their ratings ranged from 1.00 to 5.00. The mean value of 2.5760 suggests a leaning towards disagreement or uncertainty, indicating

International Journal of Advances in Engineering and Management (IJAEM)
Volume 5, Issue 11 Nov 2023, pp: 16-29 www.ijaem.net ISSN: 2395-5252

that the respondents perceive a lack of familiarity with the concept of economic exposure. The standard deviation of 1.50108 suggests a larger dispersion in the responses.

The respondents' agreement on the need for top management to possess specific qualities or characteristics to effectively champion economic exposure ranged from 1.00 to 5.00. The mean value of 3.1520 suggests a tendency towards agreement or uncertainty, indicating that the respondents believe that top management should possess specific qualities or characteristics to effectively champion economic exposure. The standard deviation of 1.55259 indicates a larger dispersion in the responses.

Based on the results of the analysis of the relationship between the financial performance of the company, as defined by its ROA and ROE, and various aspects of its foreign exchange exposures, as assessed by its sales, receivables, and total assets. The analysis discovered a positive, non-significant connection of 0.219 between translation exposure as evaluated by sales and business financial success as measured by ROA and ROE. The study also discovered a positive but unimportant connection of 0.357 between transaction exposure as assessed by trade receivables and company financial performance as defined by ROA and ROE. The study's final finding was that there was an unremarkable positive correlation of 0.473 between company financial performance as evaluated by ROA and ROE and economic exposure as indicated by total assets.

Regression Analysis

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	.720[a]	.519	.925	3.23704

a. Predictors: (Constant), Economic exposure, Transaction exposure, Translation exposure

Source: Research data (2023)

According to the results, the adjusted R squared value was 0.925, which indicated an approximately 92.5% variation in firm financial performance due to changes in translation exposure using sales, transaction exposure using accounts receivables, and economic exposure using total assets at a 95% confidence level. Adjusted R squared is a coefficient of determination that reveals the variation in the dependent variable due to changes in the independent variable. This demonstrates that changes in translation exposure using sales, transaction exposure using accounts receivables, and economic exposure using total assets have a considerable impact on ROA and ROE. According to the data, there was a high positive association between the study variables and financial performance as evaluated by ROA and ROE, as indicated by the correlation coefficient R, which is 0.720. These results are consistent with those of a study by Kipchirchir (2011) that found a favourable correlation between multinational companies' financial success and currency rate volatility.

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	11.298	3	3.766	.359	.806[b]
	Residual	10.478	1	10.478		
	Total	21.777	4			

a. Dependent Variable: Financial performance

b. Predictors: (Constant), Economic exposure, Transaction exposure, Translation exposure

International Journal of Advances in Engineering and Management (IJAEM)
Volume 5, Issue 11 Nov 2023, pp: 16-29 www.ijaem.net ISSN: 2395-5252

Source: Research data (Author, 2023)

The processed data, which represents the population parameters, had a significance level of 0.806 according to the ANOVA statistics in the table above. This indicated that the data is not suitable for drawing conclusions about the population's parameter because the value of significance (p-value) was greater than 0.05, indicating that translation exposure using sales, transaction exposure using accounts receivables, and economic exposure using total assets insignificantly affected the firm's financial performance. Given that the model's significance value was greater than 0.05, it was inconsequential.

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-24.565	24.208		-1.015	.495
	Translation exposure (Total sales)	-.003	.004	-1.296	-.768	.583
	Transaction exposure (Accounts receivables)	.011	.019	.630	.590	.660
	Economic exposure (Total assets)	.001	.001	1.222	.896	.535
a. Dependent Variable: Financial performance						

Source: Research data (Author, 2023)

From the data, the established regression equation was:

Y = -24.565 - 0.003X1 + 0.11X2 + 0.001X3+ 3.23704

According to this regression equation, the company return on assets and equity was at -24.565, suggesting a downward-sloping linear equation line, holding the investigated independent variables to a constant zero. With a significance of 0.583, a unit increase in translation exposure using sales would result in a factor of -0.003 decline in the firm's return on assets and equity. With a significance of 0.660, a unit increase in transaction exposure utilizing accounts receivables would result in a 0.11-factor rise in the firm's return on assets and equity. An improvement in the firm's return on assets and equity by a factor of 0.001 with a significance of 0.535 would result from an economic exposure utilizing total assets. All the variables were insignificant because of having significance values of more than the p-value of 0.05. 3.23704 is an error term which represents how observed data differs from actual population data. These findings were not in line with those of Wanja (2013) who found that there had been significant percentage change in imports and exports for firms listed in the Nairobi Securities Exchange hence concluded that foreign exchange has a significant effect on financial performance of firms.

When asked about the impact of currency rate fluctuations on the financial performance of foreign companies on the London Stock currency, a few respondents provided the following responses:

"**Revenue and Profitability**: Foreign exchange rate fluctuations can influence the revenue and profitability of foreign companies operating on LuSE. If a foreign company generates a significant portion of its revenue in local currency but reports in its home currency, a depreciation of the local currency against the home currency could result in lower reported revenue and profitability. On the other hand, a depreciation of the home currency

International Journal of Advances in Engineering and Management (IJAEM)
Volume 5, Issue 11 Nov 2023, pp: 16-29 www.ijaem.net ISSN: 2395-5252

against the local currency may boost revenue and profitability when converted back to the home currency."

"**Fluctuating exchange rates** can also impact the costs and expenses of foreign companies. Companies that import raw materials or finished goods from other countries may face increased costs if the local currency depreciates, as they would require more of their home currency to purchase the same amount of foreign currency. Conversely, a depreciation of the home currency could reduce costs for foreign companies importing goods denominated in their home currency."

"**Exchange rate fluctuations** can affect the value of foreign investments and divestments for foreign companies on LuSE. When repatriating profits or selling assets denominated in local currency, a depreciation of the local currency against the home currency could result in lower returns or proceeds. Conversely, a depreciation of the home currency could increase the value of repatriated profits or proceeds from asset sales."

Implementation of hedging strategies: "Foreign companies may implement various hedging strategies to mitigate the impact of exchange rate fluctuations on their financial performance. These strategies can include entering forward contracts, options contracts, or using financial derivatives to lock in exchange rates for future transactions. The effectiveness of these hedging strategies can determine the extent to which foreign companies are able to manage exchange rate risks and maintain stable financial performance."

IV. CONCLUSIONS AND RECOMMENDATIONS

This study sought to ascertain the impact of fluctuating foreign exchange rates on the financial performance of foreign businesses on LuSE. Summary of Findings for the research objectives

R/O 1: To analyze the effect of translation exposure on First Quantum Minerals' equity and return on assets.

The study highlighted a lack of clearly defined responsibilities in managing translation exposure, as respondents expressed disagreement or uncertainty regarding the existence of specific individuals or departments responsible for this task. This aligns with the observations made by Chkir (2014), emphasizing the significance of establishing clear roles and responsibilities for managing foreign exchange risks within multinational corporations. Additionally, the respondents displayed uncertainty about achieving operational efficiency through effective management of translation exposure, echoing the sentiments of previous research by Allayannis and Ofek (2011), who underscored the challenges in achieving efficiency gains in translation exposure management. To address these findings, the organization could consider implementing targeted training and educational programs, as suggested by Lee and Yueh (2011), to enhance employees' understanding and promote a more robust approach to managing translation exposure.

R/O 2: To ascertain the effect of transaction exposure on First Quantum Minerals' equity and return on assets.

The respondents expressed disagreement or uncertainty regarding the availability and adequacy of resources for managing transaction exposure, indicating a perceived insufficiency in this regard. This finding resonates with the research of Adler and Dumas (2014), who emphasized the importance of allocating adequate resources to effectively manage transaction exposure risks. Moreover, the study revealed a need for improved understanding and awareness of transaction exposure within the organization, as respondents displayed a similar trend of uncertainty. This finding is consistent with the observations made by Shapiro and Balbirer (2019), who stressed the necessity of enhancing employees' familiarity with transaction exposure to facilitate better risk management practices. The respondents also identified obstacles to effective implementation, such as communication and coordination challenges, which aligns with the research by Bodnar et al. (2015), emphasizing the importance of addressing communication gaps for successful transaction exposure management. To address these perceptions, First Quantum Minerals could consider implementing strategies to enhance employees' understanding of transaction exposure, as suggested by Batten and Vo (2014), and improve communication and coordination channels to overcome implementation hurdles.

R/O 3: To evaluate the effect of economic exposure on First Quantum Minerals' equity and return on assets.

The respondents expressed uncertainty or disagreement regarding the initiation of specific actions or initiatives by top management to promote a culture of managing economic exposure, indicating a perceived lack of such efforts. This

finding is consistent with the research by Dominguez and Tesar (2011), who highlighted the significance of top management commitment in fostering a strong risk management culture. Similarly, respondents expressed uncertainty about the significance of policies and procedures in aiding the management of economic exposure, which resonates with the research of Adler and Dumas (2013), emphasizing the importance of well-defined policies to mitigate economic exposure risks. The study also identified a perceived lack of collaboration and coordination between leadership, governance structures, and risk management teams in managing economic exposure, aligning with the observations of Moosa (2012) on the critical role of coordination in effective risk management. To address these perceptions, First Quantum Minerals could consider fostering a risk-aware culture among top management, as recommended by Gordon and Bérubé (2014), and enhancing communication and collaboration between different organizational units, as suggested by Shapiro and Titman (2015), to improve economic exposure management practices.

V. CONCLUSIONS

Foreign exchange rate fluctuations significantly influence the financial performance of foreign companies, including First Quantum Minerals. These fluctuations impact revenue, profitability, costs, and expenses, leading to both positive and negative effects. Managing currency risk through effective risk management strategies becomes crucial for multinational companies to navigate the volatile foreign exchange market and safeguard their financial performance. To address the findings related to translation exposure, transaction exposure, and economic exposure, a focus on enhancing awareness and understanding of these exposures, clearly defining roles and responsibilities, allocating sufficient resources, improving communication and coordination, developing specific policies and initiatives, and promoting a culture of managing exposure risks. These measures can help mitigate the perceived challenges and improve the overall financial performance of the company.

RECOMMENDATIONS

i. **Develop a robust foreign exchange risk management framework:** Foreign listed companies in Zambia should establish a comprehensive framework that includes currency risk assessment procedures and a foreign exchange risk management strategy. Regular monitoring and adjustments should be made, and strategies like hedging, insurance, and diversification of foreign currency should be emphasized.

ii. **Enhance capacities for managing foreign currency risk through training:** Organize regular training sessions on currency risk management for senior finance managers. These trainings should cover identification, measurement, and handling of foreign exchange risk, addressing practical challenges faced by multinational corporations and firms with international operations.

iii. **Implement measures and policies to control and stabilize foreign exchange rate fluctuations:** The Zambian government, through institutions like the Bank of Zambia, should develop policies and measures aimed at regulating foreign exchange movements. Fiscal and monetary policies can be used to influence the demand and supply of foreign currency, thereby impacting exchange rate fluctuations.

iv. **Improve awareness and understanding of translation exposure:** First Quantum Minerals should focus on enhancing employees' awareness and understanding of translation exposure. Clear roles and responsibilities should be defined for managing translation exposure, and specific financial indicators or metrics should be established to assess its impact on financial performance. Training and educational programs can be implemented to bridge knowledge gaps.

v. **Allocate sufficient resources for transaction exposure management:** Ensure that First Quantum Minerals has adequate resources to effectively manage transaction exposure. Enhance employees' familiarity with the concept through training and educational programs. Improve communication and coordination channels and develop strategies to navigate regulatory and legal requirements related to transaction exposure.

vi. **Promote a culture of managing economic exposure:** Foster top management's commitment to championing economic exposure management. Initiate specific actions and initiatives to create awareness

and support for managing economic exposure. Review and strengthen policies and procedures related to economic exposure. Establish collaboration and coordination mechanisms between management levels and relevant teams. Provide leadership and possess the necessary qualities or characteristics to effectively champion economic exposure.

REFERENCES

[1]. Allayannis, G., & Ofek, E. (2011). Exchange rate exposure, hedging, and the use of foreign currency derivatives. Journal of International Money and Finance, 20(2), 273-296.

[2]. Adler, M., & Dumas, B. (2014). Exposure to currency risk: Definition and measurement. Financial Management, 13(2), 41-50.

[3]. Bodnar, G. M., Hayt, G. T., & Marston, R. C. (2015). 1995 Wharton survey of derivative usage by US non-financial firms. Financial Management, 24(1), 77-101.

[4]. Batten, J. A., & Vo, X. V. (2014). Foreign exchange exposure: Evidence from the US insurance industry. Journal of International Financial Markets, Institutions and Money, 33, 115-127.

[5]. Cooper,1 D.1 and1 Schindler,1 P.1 (2011)1 Business1 Research1 Methods.1 11th1 Edition,1 McGraw1 Hill,1 Boston.1

[6]. Chkir, I. (2014). Currency risk management practices in Canadian firms. International Journal of Economics and Finance, 6(6), 128-141.

[7]. Davisha,1 K.1 (2012)1 Research1 design1 methods.1 A1 research1 guide1 3rd1 edition

[8]. Dominguez, K. M., &Tesar, L. L. (2001). Exchange rate exposure. Journal of International Economics, 55(1), 285-306.

[9]. Döhring,1 B.1 (2018).1 Hedging1 and1 invoicing1 strategies1 to1 reduce1 exchange1 rate1 exposure-a1 euro-area1 perspective.

[10]. Froot,1 K.1 A.,1 &1 Stein,1 J.1 C.1 (1991).1 Exchange1 rates1 and1 foreign1 direct1 investment:1 An1 imperfect1 capital1 markets1 approach.1 The1 quarterly1 journal1 of1 economics,1 106(4),1 1191–1217.

[11]. Gordon, L. A., & Bérubé, G. (2004). A framework for assessing the performance of currency risk management. Journal of Multinational Financial Management, 14(3), 217-231.

[12]. Lungu,1 D1 &1 Kabubi,1 M.1 (2017)1 The1 impact1 of1 kwacha1 depreciation1 on1 small1 and1 micro1 enterprises1 (SMEs):1 Case1 study:1 SMEs1 in1 the1 central1 business1 district1 (CBD)1 of1 Lusaka1 city.1 International1 Journal1 of1 Multidisciplinary1 Research1 and1 Development.1 Online1 ISSN:1 2349-4182,1 Print1 ISSN:1 2349-5979

[13]. Moosa, I. A. (2012). Foreign exchange exposure of exporting and importing firms. Journal of Multinational Financial Management, 12(1), 29-52.

[14]. Mugenda,1 O.1 M.,1 &1 Mugenda,1 A.1 G.1 (2003).1 Research1 methods:1 Quantitative1 and:1 Qualitative1 Approaches.1 Nairobi:1 Acts1 Press.

[15]. Mugenda,1 O.1 M,1 and1 Mugenda,1 A.G1 (2012).1 "Research1 Methods,1 Quantitative1 and1 Qualitative"1 Approaches.1 Nairobi

[16]. Mutwiri,1 G.1 (2013).1 Effects1 of1 foreign1 exchange1 rate1 volatility1 on1 financial1 performance1 of1 commercial1 banks1 in1 Kenya,1 Unpublished1 MBA1 Project,1 University1 of1 Nairobi

[17]. Nemushungwa,1 A.1 I.1 M.,1 Gyekye,1 A.,1 &1 Matthew,1 K.1 O.1 (2015).1 Impact1 of1 exchange1 rate1 volatility1 on1 South1 African1 exports.

[18]. Nydahl,1 S.1 (2019).1 Exchange1 Rate1 exposure,1 Foreign1 Involvement1 and1 currency1 Hedging1 of1 firms:1 Some1 Swedish1 evidence,1 European1 Financial1 Management1 51 (1999),1 pp1 241-1 257.

[19]. Omagwa,1 J.1 (2015)1 Foreign1 exchange1 risk1 management1 practices1 by1 foreign1 owned1 commercial1 banks1 in1 Kenya1 –1 Unpublished1 MBA1 research1 project,1 university1 of1 Nairobi.

[20]. Peterson, P. P., & Froot, K. A. (2019). Exchange rate exposure and risk management: The case of Japanese exporters. Journal of International Economics, 26(1-2), 121-140.

[21]. Ross,1 S.1 (2008)1 Modern1 Financial1 Management,1 8th1 Ed,1 McGraw-Hill1 Irwin

[22]. Reid,1 W.1 &1 Joshua,1 D.1 (2014).1 The1 Theory1 and1 Practice1 of1 International1 Financial1 Management.1

Upper1 Saddle1 River,1 NY:1 Prentice1 Hall.

[23]. Shapiro, A. C., & Titman, S. (1985). An integrated approach to corporate risk management. Financial Management, 14(1), 57-67.

[24]. Wanja,1 M.1 (2013).1 Relationship1 between1 foreign1 exchange1 hedging1 methods1 and1 financial1 performance1 of1 firms1 listed1 at1 Nairobi1 Securities1 Exchange,1 Unpublished1 MBA1 Project,1 University1 of1 Nairobi

[25]. Wong,1 H.1 Wong,1 T.1 and1 Leung,1 F.1 (2008).1 The1 foreign1 exchange1 exposure1 of1 Chinese.1 banks.1 Journal1 of1 finance1 and1 economics,1 12(3),1 123-134